

**WHAT IS CLAIMED IS:**

1. A method comprising a step of irradiating carbon nanotubes with microwaves to yield a plurality of crosslinked carbon nanotubes.
2. The method of Claim 1, wherein the step of irradiating is carried out in an inert environment selected from the group consisting of ultra-high vacuum, high vacuum, inert gases, and combinations thereof.
3. The method of Claim 1, wherein the microwave radiation comprises a frequency that ranges from about 0.01 GHz to about 100 GHz.
4. The method of Claims 3, wherein the frequency ranges from about 1 GHz to about 18 GHz.
5. The method of Claim 1, wherein the microwave radiation is generated by a magnetron with a power that ranges from about 1 W to about 10,000W.
6. The method of Claim 5, wherein the power ranges from about 10 W to about 1,000 W.
7. The method of Claim 1, wherein the crosslinked carbon nanotube material comprises at least one junction formed via the rearrangement of carbon atoms.